Serial Transceiver and Cipher

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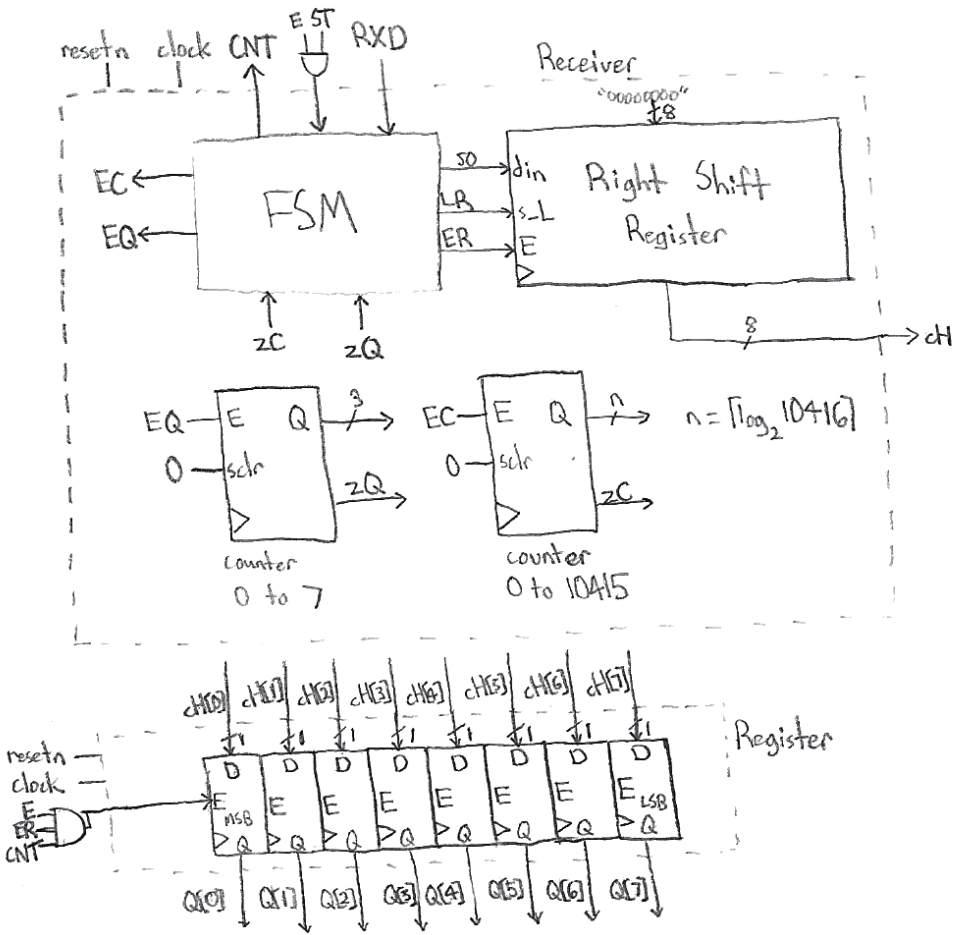
•Our project consisted of us making a Caesar Cipher. A Caesar Cipher was a method of encryption used by Julius Caesar to send messages to those who needed it.

•A Caesar Cipher differs from other means of encryption by simply shifting the letters in a message several places over either to the left or to the right.

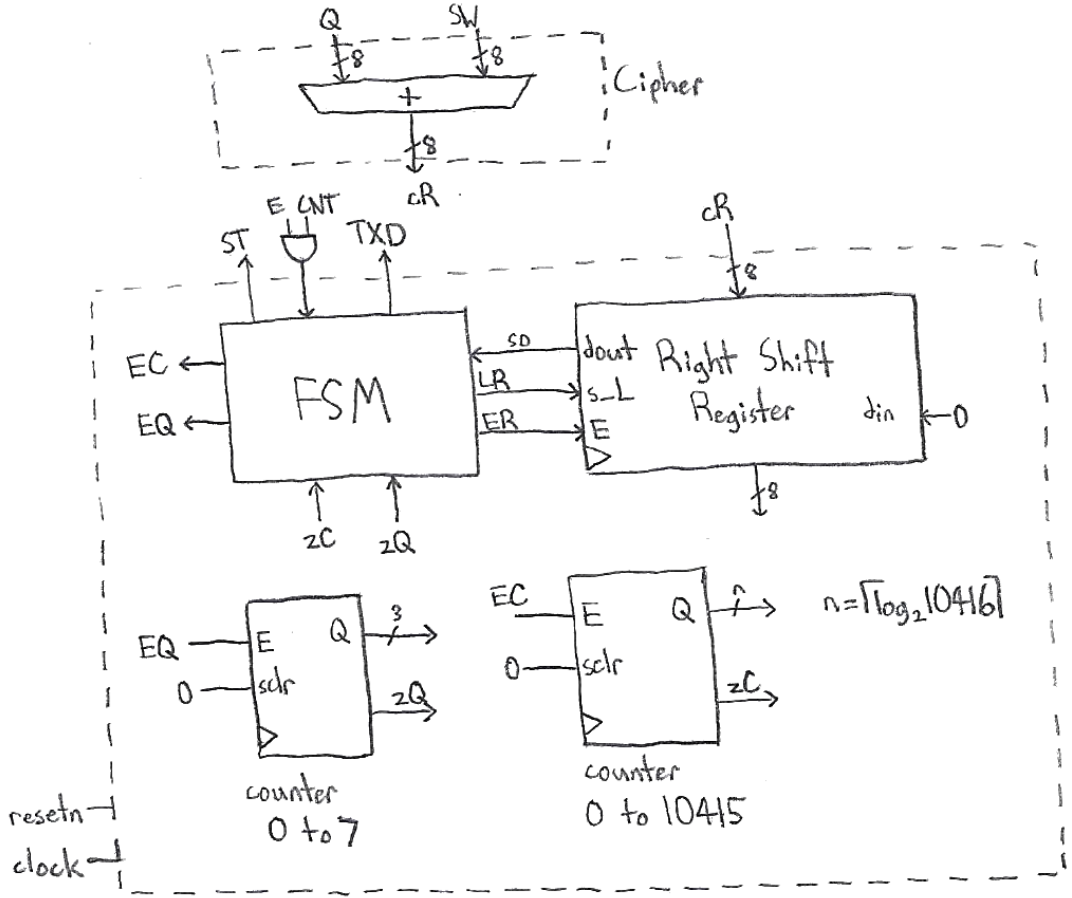
•For example, the phrase “IFMQ JO EBOHFS” would be Caesar shifted to the left one letter to make the phrase “HELP IN DANGER”.

•The idea of our project is that a user will be able to choose the value and direction of a Caesar shift, send that data to a computer, and then receive the data once more back to the board.

Receiver and Register



- 5 state finite state machine
- 2 counters
- Shift Reg
- 8 D flip-flops to serve as register
- Enables are linked to both FSM



Transmitter and Cipher

- Cipher uses an 8 bit full adder
- 5 state finite state machine
- 2 counters
- Shift Reg

References

By Hubert Berberich (HubiB) - Own work, Public Domain, https://commons.wikimedia.org/w/index.php?curid=25964875 (Cipher Disk Image)

By Fränz Friederes - https://cryptii.com/pipes/caesar-cipher (Caesar Cipher Information)